Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Improving Public Safety Communications in the 800 MHz Band	)	WT Docket 02-55
	)	
Consolidating the 800 and 900 MHz Industrial/ Land Transportation and Business Pool Channels	)	
	)	
Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems	)	ET Docket No. 00-258
	)	
Petition for Rule Making of the Wireless Information Networks Forum Concerning the Unlicensed Personal Communications Service	)	RM-9498
	)	
Petition for Rule Making of UT Starcom, Inc., Concerning the Unlicensed Personal Communications Service	)	RM-10024
	)	
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile Satellite Service	)	ET Docket No. 95-18

To: The Commission

PETITION FOR RECONSIDERATION OF THE NATIONAL ASSOCIATION OF MANUFACTURERS AND MRFAC, INC.

The National Association of Manufacturers ("the NAM") and MRFAC, Inc. ("MRFAC") (collectively, "NAM/MRFAC"), by their counsel, hereby petition for reconsideration of certain

aspects of the *Report and Order* issued in the above-captioned proceeding.[1] In support, NAM/MRFAC submit the following:

Introduction

The NAM is the nation's largest and oldest multi-industry trade association. The NAM represents 14,000 member companies (including 10,000 small and mid-sized manufacturers) and 350 member associations serving manufacturers and employees in every industrial sector and all 50 States. Headquartered in Washington, D.C., the NAM has 10 additional offices across the country.

MRFAC is one of the Commission's certified frequency coordinators for the private land mobile bands from 30 to 900 MHz. MRFAC began its operations over 25 years ago as the frequency coordinating arm for the NAM. For the past two decades MRFAC has operated independently, providing coordination and licensing-related services for manufacturers and other industrial/business entities. MRFAC has long participated in spectrum rulemakings affecting the interests of manufacturers.

Background

In the *Report and Order*, the Commission reached certain critical conclusions regarding the 800 and 900 MHz bands. With respect to 900 MHz, the agency determined to consolidate the Business and Industrial/Land Transportation pools at 900 (and 800) MHz (id. at ¶ 334); determined to allow 900 MHz private land mobile radio("PLMR") licensees to convert their channels to commercial mobile radio service ("CMRS") use without any restrictions against

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[1] *Report and Order*, *Fifth Report and Order*, *Fourth Memorandum Opinion and Order*, and *Order*, FCC 04-168, 19 FCC Rcd 14969 (2004) (hereinafter cited as "*Report and Order*"). The *Report and Order* was published in the Federal Register on November 22, 2004. Hence, this Petition for Reconsideration is timely. See Rule 1.429(d).

trafficking (id. at ¶ 337); and determined to proscribe cellularized operation below 862 MHz, but not at 900 MHz (id. at ¶ 334).

Relative to the prospect of cellular interference at 900 MHz, the Commission explained as follows:

> "... there are no public safety channels allocated in the 900 MHz band. Moreover, because there are no public safety channels allocated in the 900 MHz band, ESMR licensees designing systems 'from the ground up' in the 900 MHz band will be better able to take interference abatement into account when designing their systems."

Id. at ¶ 336. Relative to proscribing cellularized operations altogether, the Commission expressed the view that such an action, if taken "in a band in which interference to public safety communications is not an issue could unnecessarily hinder realization of the efficiencies inherent in cellular-architecture and other advanced technologies." Id. at ¶ 334. The Commission concluded by saying that "we will not hesitate to act should it appear that the interference environment in the 900 MHz band is becoming unfavorable." Ibid.

The Commission made these determinations with the expectation that Nextel will seek to shift certain of its systems from 800 MHz to 900 MHz in order to create "green space" necessary for rebanding at 800 MHz, and that this situation will be exacerbated by the need to share 816-824/861-869 MHz with other ESMR systems (particularly Southern LINC in the southeastern part of the country). It also reached this decision despite concerns that consolidation of the service pools would lead to additional CMRS use of PLMR spectrum at 900 MHz. Id. at ¶ 333.

Numerous industrial entities utilize 900 MHz radio systems for essential productivity and safety needs. At larger plants the systems can total multiple trunked channels and serve over 1,000 users. These systems are used for assembly line maintenance, just-in-time delivery coordination, emergency medical, plant security, and part/component/product distribution, to

name just a few applications. Some of these users have moved, and others are considering moving, their facilities to the 900 MHz band so as to escape interference which they have experienced at 800 MHz, or to expand their existing plants.

NAM/MRFAC urge the Commission to reconsider the decision not to impose tighter interference protections at 900 MHz. If left uncorrected, the determinations made relative to 900 MHz threaten a repeat of the difficult experience which the Commission and industry have had at 800 MHz. Further, NAM/MRFAC urge the Commission to impose reasonable restrictions to prevent trafficking in 900 MHz licenses, as the agency did when allowing conversion of PLMR spectrum to CMRS use at 800 MHz.

A. Interference Protection Standards

It is clear that there will be an influx of CMRS cellularized operations at 900 MHz. The *Report and Order* not only recognizes this as a possibility, but in fact actually encourages it by eliminating the eligibility restrictions applicable to licensed PLMR facilities such that the licensees may now convert their spectrum to CMRS operation, and may also assign their licenses to CMRS operators. Thus, the only remaining bar to an influx of new CMRS facilities is the requirement that applicants for new Business pool channels use those channels for non-SMR purposes.[2]

In short, the conditions are present for a perfect storm of interference resulting from the proliferation of low site, cellularized systems intermixed with high site industrial, business, and

[2] Even that restriction is in jeopardy in the face of hundreds of applications requesting thousands of channels filed by a wholly-owned subsidiary of Nextel, ACI 900, Inc., during the month of August 2004. These applications are not for SMR category channels and, hence, may not be used for SMR purposes absent a waiver of the Rules. See Rule 90.617.

public safety systems, including many critical infrastructure systems.[3] While Nextel or other carriers might find the imposition of tighter interference standards inconvenient, that is no reason for not adopting reasonable precautions.

Moreover, the rationale given for the failure to take any precautions against new interference at 900 MHz is, on analysis, insubstantial. The reasons are said to be two-fold: (1) the absence of public safety channels at 900 MHz; and (2) the desire not to hinder introduction of new technologies. Neither is persuasive.

First of all, the *Report and Order* misapprehends the nature of the protection required. The issue is not (or at least need not be) whether to prohibit cellular operations altogether. *Report and Order* at ¶ 334 ("we believe that proscribing cellularized operation in a band in which interference to public safety communications is not an issue could unnecessarily hinder realization of the efficiencies inherent in cellular-architecture and other advanced technologies.") The issue is whether to adopt reasonable precautions akin to Enhanced Best Practices. In this respect, the *Report and Order* presents a false choice: The Commission need not prohibit new technologies, including cellular, at 900 MHz in order to put in place reasonable safeguards.

Second, the fact that public safety channels per se are not allocated at 900 MHz does not mean that the incumbents licensed there are any less deserving of protection. The Commission

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[3] The intermixture of these two different architectures (exacerbated by interleaving) is what led to the intermodulation and out-of-band emission interference effects at 800 MHz. See *Report and Order* at ¶ ¶ 89 et seq. While 900 MHz does not have exhibit interleaving, it is NAM/MRFAC's view that the basic interference mechanisms will nonetheless be present for the reasons noted above. *See also* id. at ¶¶ 41 and 121 (discussing need for rebanding and the agency's experience at 700 MHz where "the Commission recognized early on the necessity of spectrally separating incompatible technologies in order to avoid the incidence of interference to non-cellular public safety from cellular operations" (footnote omitted); and id. at ¶ 170 (expressing wish "to proceed cautiously in [allowing even non-ESMR cellular systems below 862 MHz] out of concern over replicating the unacceptable interference problem we are attacking through band reconfiguration").

was faced with the very same issue below 861 MHz and, except in certain limited respects, extended the benefits of Enhanced Best Practices to public safety and Business/Industrial/Land Transportation licensees alike. Dismissal of the needs of B/I/LT licensees at 900 MHz is inconsistent with the determination to the contrary made in other parts of the *Report and Order* relative to 800 MHz.

Many manufacturers rely on their radio systems for emergency safety systems and, in fact, supplement local public safety entities by serving as the "first responder" to public safety emergencies occurring both within their plants and in nearby communities. In particular, they maintain mutual aid agreements with local fire and emergency medical departments. Under these agreements, the equipment and trained personnel employed by manufacturers in order to deal with their own plant safety needs are made available to nearby towns whose fire/EMS assets are often much more limited than those of the large manufacturing facility next door. Interference to these 900 MHz systems, just as interference to the many critical infrastructure systems which populate 900 MHz, is no less threatening to public safety than interference to a police or fire department system.[4]

The question presented, therefore, is not whether the Commission should adopt tighter standards, but what those standards should be. NAM/MRFAC have the following suggestions:

First. The agency should specify the appropriate protection value, and the conditions required to trigger application of that value. At 800 MHz the value is a minimum 20 dB ratio between the desired and undesired signal based on a signal strength of – 101 dBm for portables

[4] At present the only interference protection is that afforded by Rule 90.621, i.e. distance separations and contour protection for certain system modifications.

and – 104 dBm for mobiles and the use of TIA Class A receivers. Those same values may well apply at 900 MHz; this is an issue as to which radio equipment manufacturers should be heard.[5]

Second. The Commission should adopt the Enhanced Best Practices guidelines spelled out in the *Report and Order*. These include not only the obligation to share technical data and cooperate in good faith, but also specific schedules for identification, notification, assessment, and abatement of unacceptable interference.

Among other things, cellular operators should be required to include 900 MHz in the common electronic means for receiving interference complaints with the complainant required to supply the same data as for 800 MHz complaints (e.g. location of the interference, the time(s) of the interference, the severity of the interference, the source of the interference, if known, FCC license information and the point of contact). See id. at ¶ 133.[6]

Responses to complaints from cellular operators within a 5,000-foot radius should be required within 48 hours (id. at ¶¶ 135-136); corrective action initiated within 96 hours provided the communications are not safety-related (Rule 22.972 (b)); and cellular operators required to cure the interference "in the shortest practicable time" (id. at ¶ 139). All parties should be required to exercise the utmost good faith (id. at ¶ 138). The rules implementing these and other Enhanced Best Practices principles should be adopted. See Rules 22.970, 22.973, 90.672—90.674, and Appendix D of the *Report and Order*.

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[5] Channel bandwidth is 25 kHz at 800 MHz and half that at 900 MHz; this, for example, could affect the values required.

[6] "Cellular" is defined in the new Rules for purposes of the 806-817/851-862 MHz band as a high density system with (1) more than five overlapping interactive sites with hand-off capability (2) any one of which has an antenna less than 100 feet above ground, and HAAT less than 500 feet and (3) 20 or more paired frequencies. See Rule 90.7.

By adopting practices along these lines, the Commission and the PLMR community, including the numerous industrial users whose employee productivity and safety depends upon 900 MHz radio systems in their facilities, will be able to minimize the risk of "déjà vu all over again" at 900 MHz.

B. Anti-Trafficking Rules

In adopting new Rules to allow the conversion and assignment of PLMR spectrum to CMRS use at 900 MHz, the Commission failed to adopt restrictions against trafficking. See *Report and Order* at paras. 335-337. The Commission explained that it did not adopt a holding period inasmuch as it had noticed "no speculative runs on 900 MHz PLMR spectrum after the release of the [Balanced Budget Act R&O and FNPRM]." *Report and Order* at para. 337.[7]

At 800 MHz the Commission adopted significant anti-trafficking Rules. These included a requirement that modification/transfer of control/assignment for CMRS purposes would only be allowed in the case of licenses that had been held five years; and a prohibition on any licensee modifying or assigning/transferring a license for CMRS purposes, from re-applying for 800 MHz spectrum in the same area for at least one year.[8] The Commission explained that "[W]e do not want to facilitate trafficking of PLMR spectrum (e.g. PLMR eligibles acquiring new licenses from the existing pool of unassigned frequencies for the purpose of selling them to CMRS providers)."[9] After considering anti-trafficking Rules applied in other contexts, the Commission rejected the notion that a mere six month prohibition on re-application would be sufficient to

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[7] See *Report and Order and Further Notice of Proposed Rule Making* in WT Docket No. 99-87, FCC 00-403, 15 FCC Rcd 22709 (2000) (hereinafter cited as *R&O and FNPRM*).

[8] *BBA R&O and FNPRM* at paras. 114-115.

[9] Id. at para. 114.

deter speculation.[10] Likewise, in the case of the five year holding period the Commission explained:

> We believe that a five-year holding period is appropriate because such a requirement has been applied to other situations where speculation and trafficking were concerns. For example, our rules provide that licensees are subject to unjust enrichment payments for any license transfer that occurs within five years of the license grant. In this regard, we also note that 800 MHz PLMR licensees can receive an extended implementation period ... of up to five years, if they demonstrate that such a period is required to ensure that these channels will continue to be initially licensed only to entities that will use them for PLMR communications. A holding period of less than five years could undermine this goal by allowing many wide-area licensees to modify or transfer their licenses for CMRS use before they finish construction.[11]

The Commission determined to apply the Rule to applications filed after the date of adoption of the Report and Order which allowed the CMRS conversion. Id. at para. 116.

The same logic should apply here. Any licensee converting its system to CMRS use should be precluded from re-applying for PLMR 900 MHz spectrum in the same area for one year. Likewise, parties filing applications after the date of adoption of the Report and Order herein, namely July 8, 2004, should be required to hold that spectrum for five years before converting same to CMRS use. [12] Any other result threatens the continued availability of 900 MHz spectrum for legitimate PLMR purposes. [13]

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[10] Ibid.

[11] Id. at para. 115 (citations omitted).

[12] A five-year holding period applied to the ACI 900 applications referenced previously would prevent their being used for the relocation of 800 MHz systems during re-banding. However, subject to the condition noted below, the Commission arguably could consider granting the applications on a special temporary authority basis, that authority to expire 36 months hence upon completion of re-banding. The Commission itself has mentioned STAs as one possibility

(Continued...)

Conclusion

Accordingly, for the foregoing reasons NAM/MRFAC urge the Commission to reconsider the determination not to adopt interference protections and anti-trafficking rules at 900 MHz.

Respectfully submitted,

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in this connection. See Public Notice DA 04-3013, September 17, 2004 (imposing a freeze on 900 MHz applications to preserve "green space" for re-banding). The Commission would then be able to facilitate re-banding while at the same time preserving PLMR spectrum for its intended purpose. Of course, this presumes that the applications would be appropriately amended to justify the requisite waivers and a temporary authorization. See NAM/MRFAC letter of October 12, 2004 in this Docket (urging lifting of the freeze and noting deficiencies in ACI 900 applications).

[13] The *Report and Order's* rationale for not adopting a holding period does not withstand scrutiny. It disregards the agency's general practice in favor of anti-trafficking safeguards as detailed in the *R&O and FNPRM.* In addition, it is belied by the Commission's finding in the September 17 Public Notice, supra, to the effect that the agency had received a "number of applications [for 900 MHz facilities since release of the Report and Order] significantly higher than the norm" -- enough in fact to prompt the agency to impose a freeze.